

October 5, 2021

Egremont Housing Committee
Egremont Town Hall
PO Box 368
South Egremont, MA 01258

Re: Affordable Project Feasibility Study
SK Project # 180139

Dear Committee Members,

As requested, SK Design Group, Inc (SK) has prepared an evaluation of an easterly portion (Lot #1) of the Town Hall/Police Station property at 171 Egremont Plain Road in Egremont (the "property"). The evaluation criteria includes preparing an existing conditions plan, collecting topographic survey data, preparing a land plan, preparing a preliminary subdivision plan, designing a dwelling unit, and preparing a cost estimate for construction. The purpose of the evaluation is to deliver a feasibility analysis of the property for development.

Goal of Affordability

Another evaluation criterion is the unit rental cost as it relates to affordability requirements. Defining affordability has some variability. The Federal Department of Housing and Urban Development (HUD) defines an "affordable dwelling" as one that a household can obtain for 30 percent or less of its income. Income levels are restricted which establishes rent limits for Dwelling units. Affordable housing development projects typically require subsidies, and a lengthy process to obtain those subsidies. Affordable housing also includes management demands relating to tenants, qualifying incomes, maintaining records compliance, and reporting to funders for many years.

An alternative concept is the idea creating "workforce" housing. The term "workforce" is meant to represent those who are gainfully employed, a group of people who are not typically understood to be the target of affordable housing programs. Workforce housing implies an altered or expanded understanding of affordable housing. Workforce housing is commonly targeted at "essential workers" in a community i.e., police officers, firemen, teachers, nurses, medical personnel. Some communities define "essential" more broadly to include service workers, as in the case of resort communities where one finds high real estate costs and a high number of low-paying service jobs essential to the local economy. Workforce housing may be targeted more generally at certain income levels regardless of type of employment, with definitions ranging from 50% to 120% of Area Median Income (AMI). Specifically in Massachusetts, Mass Housing has invested more than \$100 million in its Workforce Housing fund, which supports the creation of rental housing that is affordable for households whose incomes are too high for subsidized housing but are priced out by market rents.

This analysis is preliminary since project goals are not yet determined. I am assuming the project goal is supplying housing for workforce tenants with a maximum rent equal to 110% AMI. This equates to \$2,081 dollars per month in Egremont. This assumption facilitates completion of this first step in the review process. This letter report includes all the collected information in attachments and the following narrative in support of this preliminary concept. The evaluation does not include costs related to obtaining public funds, grant writing or the completion of ancillary items including appraisals, environmental and geotechnical studies.

Property Survey

The property includes just over 6 acres of land and was surveyed by Taconic Land Consultants in 2018. A copy of the perimeter survey is included herein in attachment "A". SK has prepared a topographic survey which includes the collection of elevations and existing features which was used to prepare an existing condition plan of the property. The lot has 101 feet of frontage along Egremont Plain Road (AKA route 71). Route 71 is a town road according to the *Mass DOT Road Inventory*. The road is classified as a rural major collector road and has just over 1269 AADT (Annual average daily traffic). The topographic survey was completed by SK over the past several years and updated recently. The site has a sloping topography from the south to north with some variation and undulation. The overall grade change is over 60 vertical feet with the elevation near the southerly site driveway at elevation 154 and the elevation at Route 70 of 97 feet. The topography is based upon an assumed benchmark.

Soils Information

SK completed percolation tests onsite in 2018 which includes a determination of soil types, permeability, and depth of soil layers. A copy of the NRCS soil survey for the entire property is presented in Attachment B. A copy of the percolation tests is on file with the Board of Health.

In summary the onsite soils are Pittsfield loam. This is a strongly sloping, very deep, well drained soil on the upper side of slopes on drumlins or glacial till ridges. A detailed description of the soil profile and soil properties is outlined in the soil survey attachment and the percolation test report.

Permitting Strategy

Land development has many regulatory parameters that include regulations, by-laws, dimensional criteria, and planning goals. The Town of Egremont has a zoning by-law that regulates land use. The by-law has a map that locates this property in the "General" zoning district. The district has land use and dimensional requirements that must be met, or a building permit cannot be obtained for construction. The By-law requires area and frontage for lots as well as a specific list of permitted by-right uses. For this project to proceed the following steps are required:

1. a subdivision approval is needed to create the road,
2. a special permit is required to allow multifamily dwellings and
3. dimensional variances are necessary to waive dimensional requirements of the by-law.

The dimensional variance would allow increased unit clustering and result in dwelling units that are more affordable. Waiving zoning criteria is commonly done in Massachusetts under the provisions of the Comprehensive permit protocol. In a friendly circumstance town officials could grant a variance and waive dimensional criteria rather than participate in the exhaustive Comprehensive permit process (40B). Variances typically require a hardship and a design that meets the stated purpose of the by-law. In this case a dimensional variance has a lower standard for approval making this option viable. The primary purpose of the by-law could be met with this zoning strategy. While a development's permitting strategy is best prepared by a land use attorney, the above strategy was used for the purposes of this evaluation.

Development Requirements-

The project requires three primary attributes including access, sewer, and potable water. Each of these requirements is met on the property. The Property is accessible from Egremont Plain Road and the driveway to the town's transfer station. The access creates a through street which is ideal for emergency vehicles and alleviates traffic concerns. Sewer must be an onsite septic system as the town does not have a municipal sewer system. The onsite soils are conducive to this approach and a shared system is the most economical solution. Onsite septic systems are limited by capacity to less than 10,000 gallons per day without significant treatment systems per 310 CMR 15.00. Exceeding the maximum flow threshold can easily be avoided by the management of density and by keeping the maximum number of bedrooms below 90.

The final criterion is the drinking water well. The first alternative is expanded use of the existing onsite public water supply well. SK reviewed the water well information with the mass DEP drinking water program staff. The limitation is the existence of non-compliant uses in proximity to the well. The transfer station is located just beyond the existing Interim wellhead protective radius. Expanding the withdrawal from the well increases the protective radius. Expanding the radius will include the transfer station which is not allowed. The existence of the transfer station just beyond the existing well's protective radius prohibits any increase in the withdrawal. Further the well has several buildings in the Zone 1 protective radius. Thus, the well is considered non-compliant and thus use cannot be modified. A copy of the files obtained from the Mass DEP are included in Attachment C.

The alternative is to install onsite "private" drinking water wells for the proposed dwelling units. For small projects that are built in phases or as the market demands the installation of individual wells for each building is the good solution. The risk is the overuse of a private well and crossing the regulatory threshold for a public water supply well. Public Water System means a system for the provision to the public of water for human consumption, through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. Based upon this definition a private well could service a duplex dwelling unit. Expanding use of a single well to additional buildings typically creates complications with electric service bills and land ownership/easements. With one well per building and one duplex per lot the complexities are simplified. A similar approach with a single septic tank and sewer pump per lot (shared) is consistent with this approach. Thus, each building with two dwelling units would have a shared well and shared sewer connection.

Site Plan

Site plan preparation involves the organization of land use, zoning, access, circulation, privacy, security, shelter, stormwater management, and other factors. In this instance the property shape and topography dictate the location of the access road. The proposed road has access points at the northerly end at Route 71 and the southerly end at the transfer station driveway. The through street concept is advantageous since it allows greater density and facilitates emergency vehicle access. The roadway layout bisects the property's width creating buildable land area to each side. The resulting building sites are chosen based upon regulatory dimensional requirements (zoning setbacks), fire protection considerations and topography. Setbacks can be waived and were met to the maximum feasible extent. Fire protection considerations require more than 30 feet between 1- and 2- family dwellings with a water supply of 500 gpm for a duration of 1 hour (*ISO Guide for determination of needed Fire Flow, 2014*). Topography including proximity to neighbors was considered along with opportunities for screening and landscaping. The resulting site plan was prepared and is the basis for the civil engineering design and cost estimates.

Utilities

Installing individual wells at each building requires the creation of separate parcels or lots. Maintaining a private status requires the wells to be on separately owned parcels of land to avoid aggregation and a designation as a well field. Well fields are categorized as public water supplies and the criteria associated with PWS is not achievable on this property. This approach will require legal analysis to create separate parcels for buildings and wells while still having a cohesive development. Often the creation of condominium footprints that include the buildings and wells can be utilized to solve this dilemma.

Installing onsite sewer systems on each lot is difficult. To install an individual septic system on each lot with a drinking water well and its required protective setbacks would significantly reduce density. This is solved by installing a new shared septic system remotely. This requires legal documents for easements and agreements for each lot to create an association to ensure proper maintenance and inspections are completed. The remote location is suggested behind and uphill of the transfer station building as the septic system has no setback requirements from the Transfer station and the oversight of the solid waste regulations. The remote sewer location requires percolation testing and soil evaluations to confirm viability. Power, tv and telephone are available from overhead wires along Egremont Plain Road and can easily be installed along the proposed subdivision road right of way.

Architecture

SK has a typical and somewhat generic duplex residential building on file. The design was prepared by SK staff a couple of years ago and was priced in 2020. This information was archived and has been recycled for use in this project. The design is for a duplex dwelling unit with two bedrooms and two baths each. The one-story dwellings have a one car garage. Since SK staff prepared the design, it is available for use in this study. Further, the pricing information is likely relevant as the lumber market is starting to stabilize and is approaching pre-covid numbers.

¹Rental Income Information

The affordability of renting a dwelling unit must meet specific standards that are based upon income. "Affordable" Households must typically earn no more than 80 percent of average median income (AMI). However, this criterion may change annually or by region. Egremont has the following values for income requirements per the State's website.

	Household Size							
	1 person	2 people	3 people	4 people	5 people	6 people	7 people	8 people
50% AMI Minimum Income	\$29,900	\$34,200	\$38,450	\$42,700	\$46,150	\$49,550	\$52,950	\$56,400
80% AMI Maximum Income	\$47,850	\$54,650	\$61,500	\$68,300	\$73,800	\$79,250	\$84,700	\$90,200

The resulting available rents for households in Egremont to meet the criteria for "workforce" housing are included below. As stated previously workforce housing has a broader range and includes rentals up to 120% AMI. Workforce Housing Eligible Projects include:

- Preference for new units; existing projects where unrestricted units become restricted, or preservation of affordability is at risk will be considered
- 20% of units must be affordable for households earning at or below 80% of AMI

MHP

2021 MAXIMUM ALLOWABLE RENTS FOR AFFORDABLE HOUSING UNITS

	<u># Bedrooms</u>	<u>SRO</u>	<u>Studio</u>	<u>1BR</u>	<u>2BR</u>	<u>3BR</u>	<u>4BR</u>
Berkshire County, MA	30% RENT	331	442	473	568	719	889
	50% RENT	552	736	788	946	1,093	1,220
	TC 50% RENT	736	736	788	946	1,093	1,220
	60% RENT	662	883	946	1,135	1,312	1,464
	TC 60% RENT	883	883	946	1,135	1,325	1,464
	80% RENT	883	1,178	1,262	1,515	1,750	1,952
	110% RENT	1,214	1,619	1,735	2,081	2,406	2,684

The above scenario would include 20 two-bedroom rental units. The state eligibility requirements dictate that 80% would be "workforce" units while 20% would be "Affordable" rents. Following this unit designation project income would be as follows:

¹ Rental Income information should be verified by a certified consultant.

DU type	# Of units	Maximum rent	Subtotal of Monthly project income	Assume vacancy rate of 10%	Project monthly income
Workforce (110% of AMI)	16	\$2,081.00	\$33,296.00		
Affordable (80% AMI)	4	\$1,515.00	\$6,060.00		
			\$39,356.00	(\$3,935.60)	\$ 35,420.40
				Management Fee:	\$ (4,250.45)
				Maintenance reserve fee:	\$ (2,000.00)
					\$29,169.95

The project would require a maintenance fee for property management and compliance monitoring. This is typically 8-12% of the rental income. A 12% fee which includes snow plowing, mowing and leaf removal type services is expected. A capital reserve fund is required for projects of this type and is estimated at \$100 per unit per month. Based upon the available information presented above the project may have income of approximately \$30,000 dollars per month.

Cost:

The project costs are estimated by preparing the preliminary design and creating a budget for each component. All presented costs are estimates and are approximate. Careful attention is given to cost items to avoid overlap of tasks which is somewhat inevitable. The components include the road, the structures, the sewer system, and the engineering costs. Some obvious ancillary costs were included to close the error gap that is inherent in preliminary feasibility studies. The total project cost is over \$6.6 million dollars with an amortized cost per month of approximately \$38,000 dollars. The anticipated project income is approximately \$30,000 dollars per month or a shortfall of \$8,000-10,000 per month. This equates to \$500 per unit per month.

At this point the project requires support from many cooperative sources. Private donations, fund raising, state subsidy, value engineering of the building and site improvements is necessary to meet the projects budget demands. These tasks require pre-development support from architects, engineers, development consultants and professional fund raisers. A successful team typically can generate support for pre-development work, construction subsidies and rental subsidies. Applying several sources and detailed coordination can make this a feasible project. At the conceptual stage of design, it is common for projects to have a shortfall. Closing the gap is the key to a successful outcome.

EGREMONT HOUSING COMMITTEE
AFFORDABLE PROJECT FEASIBILITY STUDY

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Cover Letter

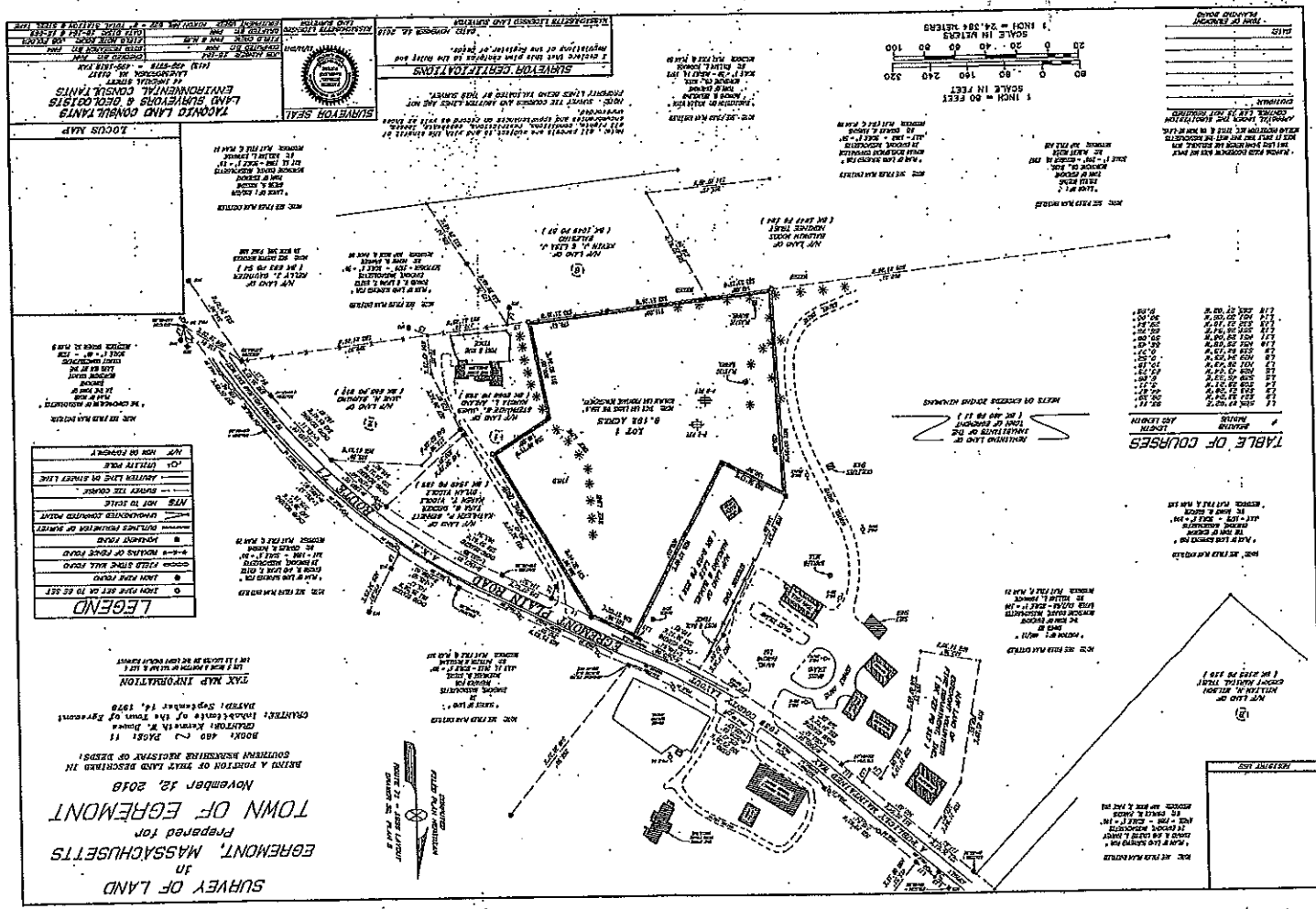
ATTACHMENTS:

- A. Survey Plan by Taconic Land Consultants dated 11/12/18
- B. Percolation Test/Soil Suitability Results dated 10/19/18
- C. Soil Resource Report for Berkshire County by Natural Resources Conservation Service dated 9/16/21
- D. Source Water Assessment & Protection (SWAP) Report by MDEP dated 12/13/11
- E. Architectural Renderings & Custom Quote dated 3/18/20
- F. Preliminary Construction Cost Estimate and Engineering/Permitting Budget dated 9/28/21
- G. Existing Conditions Plan, Proposed Site Plan, Sewer & Water Plan and Utilities & Drainage Plan by SK Design Group, Inc. dated 9/7/21

ATTACHMENT A

Survey Plan by Taconic Land Consultants

Dated 11/12/18



TAUNTON LAND CONSULTANTS
LAND SURVEYORS & GEOLOGISTS
ENVIRONMENTAL CONSULTANTS
1000 WASHINGTON STREET
TAUNTON, MASSACHUSETTS 01906
TEL: 781-863-1111
FAX: 781-863-1112
WWW.TAUNTONLANDCONSULTANTS.COM



SURVEYOR CERTIFICATIONS
I, the undersigned, being duly sworn, depose and say that I am a duly Licensed Professional Surveyor in the State of Massachusetts, and that I am the author of the foregoing map, and that the same is a true and correct representation of the facts and conditions as shown to me by the parties to the survey, and that I am not aware of any facts or circumstances which would render the same misleading or incorrect.

NOTES
1. ALL PROPERTY LINES SHOWN ON THIS MAP ARE BASED ON THE SURVEY DATA PROVIDED BY THE CLIENT.
2. THE CLIENT IS RESPONSIBLE FOR THE ACCURACY OF THE DATA PROVIDED.
3. THIS MAP IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF TAUNTON LAND CONSULTANTS.

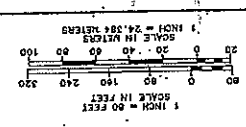


TABLE OF COURSES

LINE	BEARING	DISTANCE
1	N 0° 00' 00" E	100.00
2	N 0° 00' 00" E	100.00
3	N 0° 00' 00" E	100.00
4	N 0° 00' 00" E	100.00
5	N 0° 00' 00" E	100.00
6	N 0° 00' 00" E	100.00
7	N 0° 00' 00" E	100.00
8	N 0° 00' 00" E	100.00
9	N 0° 00' 00" E	100.00
10	N 0° 00' 00" E	100.00

LEGEND

- BOUNDARY LINE
- EASEMENT
- RIGHT-OF-WAY
- ADJACENT LAND
- ADJACENT ROAD
- ADJACENT WATER
- ADJACENT AIR
- ADJACENT LAND
- ADJACENT ROAD
- ADJACENT WATER
- ADJACENT AIR

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TOWN OF EGREMONT
MASSACHUSETTS
Prepared for
November 12, 2018
BRING A PORTION OF THE TOWN OF EGREMONT
COUNTY MASSACHUSETTS TO BE
RECORDED IN THE
BOOK 400, PAGE 11
OF THE
RECORDS OF THE
TOWN OF EGREMONT
MASSACHUSETTS
TAUNTON LAND CONSULTANTS
1000 WASHINGTON STREET
TAUNTON, MASSACHUSETTS 01906
TEL: 781-863-1111
FAX: 781-863-1112
WWW.TAUNTONLANDCONSULTANTS.COM

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ATTACHMENT B

Percolation Test/Soil Suitability Results

Dated 10/19/18



Commonwealth of Massachusetts
City/Town of
Percolation Test
Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Site Information

Town of Egremont

Owner Name

Egremont Plain Rd.

Street Address or Lot #

Egremont

City/Town

Mass

State

01258

Zip Code

Contact Person (if different from Owner)

Telephone Number

B. Test Results

	10-17-18 Date	12:15 p.m. Time	19-17-18 Date	12:50 p.m. Time
Observation Hole #	1		2	
Depth of Perc	33"		34"	
Start Pre-Soak	12:13		12:54	
End Pre-Soak	12:29		1:17	
Time at 12"	12:29		1:17	
Time at 9"	12:55		1:22	
Time at 6"	1:36		1:27	
Time (9"-6")	41		5	
Rate (Min./Inch)	14		2	

Test Passed:



Test Failed:



Test Passed:



Test Failed:



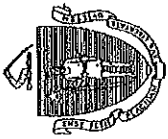
Robert G. Fournier, Soil Evaluator

Test Performed By:

Juliette Hass

Witnessed By:

Comments:



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

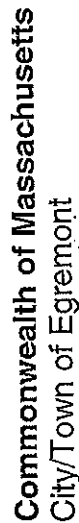
MassDEP has provided this form for use by on-site professionals and local Boards of Health. Other forms may be used, but the information must be substantially the same as provided here. Before using this form, check with your local Board of Health to determine the form they use.

A. Facility Information

Town of Egremont
Owner Name
Egremont Plain Rd.
Street Address
Egremont MA
City State
Map/Lot #
01258
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair
If yes: 1988 Year Published 1:25000 Publication Scale PVC Soil Map Unit
Moderate: slope
Soil Limitations
2. Published Soil Survey Available? ☒ Yes ☐ No
Pittsfield Loam, 8-15%
Soil Name
3. Surficial Geological Report Available? ☐ Yes ☐ No
If yes: Year Published Publication Scale Map Unit
Landform
4. Flood Rate Insurance Map
Above the 500-year flood boundary? ☒ Yes ☐ No Within the 100-year flood boundary? ☐ Yes ☒ No
Within the 500-year flood boundary? ☐ Yes ☒ No Within a velocity zone? ☐ Yes ☒ No
5. Wetland Area: National Wetland Inventory Map Map Unit Name
Wetlands Conservancy Program Map Map Unit Name



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

B. Site Information (Continued)

6. Current Water Resource Conditions (USGS): _____
 Range: ☐ Above Normal ☐ Normal ☐ Below Normal

 Month/Year
7. Other references reviewed: _____

C. On-Site Review (minimum of two holes required at every proposed primary and reserved disposal area)

Deep Observation Hole Number: P-2A 10-17-18 1:00 P.M. overcast, +50
Date Time Weather

- Location
Ground Elevation at Surface of Hole: _____ Location (identify on plan): _____
Land Use meadow none 2-4
(e.g., woodland, agricultural field, vacant lot, etc.) Surface Stones Slope (%)
grass
Vegetation
- Distances from: Open Water Body _____ Landform _____
Property Line _____
Glacial Till _____
feet _____
See _____
plan _____
Drinking Water Well _____
Possible Wet Area _____
Other _____
feet _____
Position on Landscape (attach sheet) +100'
feet
- Parent Material: _____ Unsuitable Materials Present: ☐ Yes ☒ No
If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Impervious Layer(s) ☐ Weathered/Fractured Rock ☐ Bedrock
- Groundwater Observed: ☐ Yes ☐ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole _____
- Estimated Depth to High Groundwater: _____ inches _____ elevation _____



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (Continued)

Deep Observation Hole Number: P-2A

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features (mottles)			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-4	A	10YR 4/1				SL	0		GRAN.	LOOSE	
4-16	B	10YR 5/2				SL	0		GRAN.	LOOSE	
16-33	C1	10YR 5/3	17	7.5Y 5/3	50	SL	0		PLATY	FIRM	
33-90+	C2	7.5Y 6/1				SL	50	MANY	GRAN.	VERY FIRM	fractured rock

Additional Notes:



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (Continued)

Deep Observation Hole Number: P-2B Date: 10-17-18 Time: 1:15 P.M. Weather: overcast+50

1. Location

Ground Elevation at Surface of Hole: _____ Location (identify on plan): _____

2. Land Use meadow (e.g., woodland, agricultural field, vacant lot, etc.) none Surface Stones _____ Slope (%) 2-4

grass Vegetation _____ Landform _____ Position on Landscape (attach sheet) _____

3. Distances from: Open Water Body _____ feet _____ Drainage Way _____ feet _____ Possible Wet Area _____ feet _____
Property Line _____ see _____ Drinking Water Well _____ see _____ Other _____ feet _____
Glacial Till _____ Unsuitable Materials Present: ☐ Yes ☐ No

4. Parent Material: ☐ Disturbed Soil ☐ Fill Material ☐ Impervious Layer(s) ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☐ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole _____

Estimated Depth to High Groundwater: _____ inches _____ elevation _____



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (Continued)

Deep Observation Hole Number: P-2B

Depth (ft.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features (mottles)			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6	A	10YR 4/1				SL	0	0	GRAN.	LOOSE	
6-25	B	10YR 5/2				SL	0	0	GRAN.	LOOSE	
25-87	C	7.5Y 6/1	26	7.5Y 5/3	>5	LS	75	FEW	GRAN.	LOOSE TO FIRM	fractured rock

Additional Notes:



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

D. Determination of High Groundwater Elevation

1. Method Used:

☐ Depth observed standing water in observation hole

A. _____ inches
B. _____ inches

☐ Depth weeping from side of observation hole

A. _____ inches
B. _____ inches

☒ Depth to soil redoximorphic features (mottles)

A. 17 _____ inches
B. 26 _____ inches

☐ Groundwater adjustment (USGS methodology)

A. _____ inches
B. _____ inches

2.

Index Well Number _____

Reading Date _____

Index Well Level _____

Adjustment Factor _____

Adjusted Groundwater Level _____

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed?

Upper boundary: 5 _____ inches
Lower boundary: 84 _____ inches



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Robert G. Fournier
Signature of Soil Evaluator

Robert G. Fournier

Typed or Printed Name of Soil Evaluator / License #

Juliette Hass

Name of Board of Health Witness

Date

July, 1995

Date of Soil Evaluator Exam

Egremont

Board of Health

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with Percolation Test Form 12.



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

Field Diagrams

Use this sheet for field diagrams:



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

MassDEP has provided this form for use by on-site professionals and local Boards of Health. Other forms may be used, but the information must be substantially the same as provided here. Before using this form, check with your local Board of Health to determine the form they use.

A. Facility Information

Town of Egremont
Owner Name
Egremont Plain Rd.
Street Address
Egremont MA
City State
Map/Lot #
01258
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair
If yes: 1988 Year Published 1:25000 Publication Scale PVC Soil Map Unit
Moderate: slope
Soil Limitations
2. Published Soil Survey Available? ☒ Yes ☐ No
Pittsfield Loam, 8-15%
Soil Name
3. Surficial Geological Report Available? ☐ Yes ☐ No
If yes: Year Published Publication Scale Map Unit
Landform
4. Flood Rate Insurance Map
Above the 500-year flood boundary? ☒ Yes ☐ No Within the 100-year flood boundary? ☐ Yes ☒ No
Within the 500-year flood boundary? ☐ Yes ☒ No Within a velocity zone? ☐ Yes ☒ No
5. Wetland Area: National Wetland Inventory Map
Wetlands Conservancy Program Map
Map Unit Name
Map Unit Name



B. Site Information (Continued)

6. Current Water Resource Conditions (USGS): _____
Range: ☐ Above Normal ☐ Normal ☐ Below Normal
7. Other references reviewed: _____

C. On-Site Review (minimum of two holes required at every proposed primary and reserved disposal area)

- Deep Observation Hole Number:** _____

1. Location

Ground Elevation at Surface of Hole: _____ **Location (identify on plan):** _____

2. Land Use meadow _____ none _____ **2-4**
 (e.g., woodland, agricultural field, vacant lot, etc.) Surface Stones
 grass _____ **Slope (%)**
 Vegetation _____

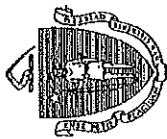
3. Distances from: _____ **Landform** _____ **Position on Landscape (attach sheet)**
 Open Water Body _____ **Drainage Way** _____ **Possible Wet Area** **+100'**
 feet
 Property Line _____ **Drinking Water Well** _____ **See** _____ **Other** _____ **feet**
 plan
 Proglacial outwash _____ **Unsuitable Materials Present:** ☐ Yes ☒ No

4. Parent Material:

If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Impervious Layer(s) ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☐ No **If yes:** _____ **Depth Weeping from Pit** _____ **Depth Standing Water in Hole** _____

Estimated Depth to High Groundwater: _____ **inches** _____ **elevation** _____



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (Continued)

Deep Observation Hole Number: P-1A

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features (mottles)			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones		
0-4	A	10YR 4/1				SL	0		LOOSE	
4-14	B	10YR 5/2				SL	0		LOOSE	
14-30	C1	10YR 5/3	15"	7.5Y 5/3	50	SL	5		FIRM	
30-75+	C2	7.5Y 6/1				SL	50	MANY	VERY FIRM	fractured rock

Additional Notes:



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (Continued)

Deep Observation Hole Number: P-1B 10-17-18 1:15 P.M. overcast+50
Date Time Weather

1. Location

Ground Elevation at Surface of Hole: _____ Location (identify on plan): _____

2. Land Use meadow none 2-4
(e.g., woodland, agricultural field, vacant lot, etc.) Surface Stones Slope (%)
grass

Vegetation Landform

3. Distances from: Open Water Body feet Drainage Way feet Possible Wet Area +100'
Property Line see Drinking Water Well see Other feet
Proglacial outwash plan plan

4. Parent Material: _____ Unsuitable Materials Present: ☐ Yes ☐ No

If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Impervious Layer(s) ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☐ No If yes: 96" Depth Standing Water in Hole
_____ Depth Weeping from Pit

Estimated Depth to High Groundwater: _____ elevation
_____ inches



Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (Continued)

Deep Observation Hole Number: P-1B

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features (mottles)			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-5	A	10YR 4/1				SL	0	0	GRAN	LOOSE	
5-22	B	10YR 5/2				SI	0	0	GRAN	LOOSE	
22-96+	C	7.5Y 6/1	22"	7.5Y 5/3	>5	LS	75	FEW	GRAN	LOOSE TO FIRM	

Additional Notes:



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

D. Determination of High Groundwater Elevation

1. Method Used:

☐ Depth observed standing water in observation hole

A. _____ inches
B. _____ inches

☐ Depth weeping from side of observation hole

A. _____ inches
B. _____ inches

☒ Depth to soil redoximorphic features (mottles)

A. 15 (estimated) _____ inches
B. 22 (estimated) _____ inches

☐ Groundwater adjustment (USGS methodology)

A. _____ inches
B. _____ inches

2.

Index Well Number _____

Reading Date _____

Index Well Level _____

Adjustment Factor _____

Adjusted Groundwater Level _____

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

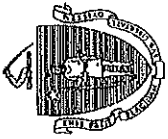
a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☐ Yes ☐ No

b. If yes, at what depth was it observed?

Upper boundary: $\frac{5}{}$ inches

Lower boundary: $\frac{96}{}$ inches



Commonwealth of Massachusetts
City/Town of Egremont

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Robert G. Fournier

Signature of Soil Evaluator

Robert G. Fournier

Typed or Printed Name of Soil Evaluator / License #

10/19/18

Date

July, 1995

Date of Soil Evaluator Exam

Egremont

Board of Health

Name of Board of Health Witness

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Commonwealth of Massachusetts
City/Town of Egremont

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

Field Diagrams

Use this sheet for field diagrams:

ATTACHMENT C

Soil Resource Report for Berkshire County

By Natural Resources Conservation Service

Dated 9/16/21



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Berkshire County, Massachusetts**



September 16, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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512C—Pittsfield loam, 8 to 15 percent slopes, extremely stony.....	14
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


Custom Soil Resource Report
Soil Map



MAP LEGEND


MAP INFORMATION

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points


Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit


 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water


 Rock Outcrop


 Saline Spot


 Sandy Spot


 Severely Eroded Spot


 Sinkhole


 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other


 Special Line Features

Water Features


 Streams and Canals


Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

The soil surveys that comprise your A
1:25,000.

Warning: Soil Map may not be valid at

Enlargement of maps beyond the scale
misunderstanding of the detail of map
line placement. The maps do not show
contrasting soils that could have been
scale.

Please rely on the bar scale on each
measurements.

Source of Map: Natural Resources C
Web Soil Survey URL:
Coordinate System: Web Mercator (

Maps from the Web Soil Survey are b
projection, which preserves direction
distance and area. A projection that p
Albers equal-area conic projection, sh
accurate calculations of distance or a

This product is generated from the US
of the version date(s) listed below.

Soil Survey Area: Berkshire County,
Survey Area Data: Version 15, Jun 9

Soil map units are labeled (as space
1:50,000 or larger.

Date(s) aerial images were photograp
2019

The orthophoto or other base map on
compiled and digitized probably differ
imagery displayed on these maps. As
shifting of map unit boundaries may b

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108E	Farmington-Rock outcrop complex, 15 to 35 percent slopes	1.1	18.6%
512C	Pittsfield loam, 8 to 15 percent slopes, extremely stony	4.5	79.0%
515D	Stockbridge gravelly silt loam, 15 to 25 percent slopes	0.1	2.4%
Totals for Area of Interest		5.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

Custom Soil Resource Report

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Berkshire County, Massachusetts

108E—Farmington-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 98t0
Elevation: 100 to 900 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 120 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Farmington and similar soils: 60 percent
Rock outcrop: 35 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Farmington

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Shallow, friable loamy basal till derived from limestone over limestone

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 17 inches: gravelly loam
H3 - 17 to 21 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ridges

Custom Soil Resource Report

Parent material: Limestone

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: Unranked

Minor Components

Pittsfield

Percent of map unit: 2 percent

Hydric soil rating: No

Nellis

Percent of map unit: 2 percent

Hydric soil rating: No

Amenia

Percent of map unit: 1 percent

Hydric soil rating: No

512C—Pittsfield loam, 8 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 98vy

Elevation: 0 to 1,000 feet

Mean annual precipitation: 32 to 50 inches

Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 145 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Pittsfield and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pittsfield

Setting

Landform: Drumlinoid ridges

Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Friable coarse-loamy eolian deposits over friable, calcareous coarse-loamy basal till derived from limestone

Custom Soil Resource Report

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 32 inches: fine sandy loam
H3 - 32 to 64 inches: gravelly sandy loam

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Amenia

Percent of map unit: 11 percent
Hydric soil rating: No

Farmington

Percent of map unit: 2 percent
Hydric soil rating: No

Kendaia

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

515D—Stockbridge gravelly silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 98w5
Elevation: 640 to 1,610 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Stockbridge and similar soils: 90 percent

Custom Soil Resource Report

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stockbridge

Setting

Landform: — error in exists on —

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Friable coarse-loamy eolian deposits over dense, calcareous coarse-loamy lodgment till derived from limestone

Typical profile

H1 - 0 to 7 inches: gravelly silt loam

H2 - 7 to 24 inches: silt loam

H3 - 24 to 64 inches: gravelly silt loam

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Amenia

Percent of map unit: 7 percent

Hydric soil rating: No

Farmington

Percent of map unit: 3 percent

Hydric soil rating: No

References

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- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

ATTACHMENT D

Source Water Assessment & Protection (SWAP) Report

By MassDEP dated 12/13/11



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

December 13, 2011

Egremont Town Hall
Attn: Juliette Haas
C/O Egremont Board of Health
PO Box 368
South Egremont, Massachusetts 01258

Re: Egremont
Egremont Town Hall
Source Water Assessment and Protection
(SWAP) Program Report
PWS ID # 1090018

Dear Ms. Haas,

Enclosed is the Source Water Assessment and Protection (SWAP) program report for your system generated by the Massachusetts Department of Environmental Protection (MassDEP). The report includes a description of the program, a susceptibility rating for your system, recommendations for source protection, and a geographic information system (GIS) map of your system's source(s), Zone I and Interim Wellhead Protection Area (IWPA). The SWAP Report was generated using information from MassDEP's database, correspondence files, Public Water System (PWS) Annual Statistical Reports, and MassDEP site visits.

To the extent possible, efforts should be made to reduce or eliminate the impacts of non-conforming uses within Zone I. Pursuant to 310 CMR 22.04(1) and 22.21(a), a PWS with a non-conforming well(s) must notify MassDEP if it plans to expand or modify the facility or replace the well(s). At the time of such notification of a proposed modification, expansion, or replacement, MassDEP may require the PWS to comply with the requirements that all Zone I activities be limited to those directly related to water supply or will have no adverse impact on water quality.

A copy of this report will be provided to your local Board of Health and Planning Board officials; copies of all the completed SWAP reports for your town are provided to the local health and planning officials to assist in planning decisions. We hope that the information on the SWAP report will be useful to you and local officials in improving protection at your source(s).

If you have any questions please contact Kimberly Longridge at (413-755-2215) or me at (413-755-2148).

Respectfully,

Deirdre Cabral

Deirdre Cabral
Drinking Water Program /Municipal Services Chief
Bureau of Resource Protection

Location: Y:\DWP Archive\WERO\EGREMONT-1090018-SWAP-2011-12-13
W:\bpl\pws\SWAP Docs\SWAP Reports\2011\1090018 Egremont SWAP 2011 Town Hall.doc
cc: Town Planning Officials & Board of Health, Egremont
MassDEP Drinking Water Program, WERO, Boston

pdf

Transient Non-Community Source Water Assessment and Protection (SWAP) Report For Egremont Town Hall



Prepared by the
Massachusetts Department of
Environmental Protection,
Bureau of Resource
Protection, Drinking Water
Program

Date Prepared:
December 13, 2011

What is SWAP?

The Source Water Assessment and Protection (SWAP) Program, established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection of sources.

The Massachusetts Department of Environmental Protection (MassDEP) Drinking Water Program has undertaken this task. The rankings of susceptibility of your well(s) to potential contamination are listed in Table 1.

Table 1: Public Water Supply Information

<i>PWS Name</i>	Egremont Town Hall
<i>PWS Address</i>	171 Egremont Plain Rd.
<i>City/Town</i>	South Egremont, Massachusetts
<i>PWS ID Number</i>	1090018

Table 2: Well Information

<i>Well Name</i>	<i>Well (Source) ID#</i>	<i>Zone I Radius (feet)</i>	<i>IWPA Radius (feet)</i>	<i>Microbial Susceptibility*</i>	<i>Non-Microbial Susceptibility**</i>
Well #1	1090018-01G	100	400	High	Moderate

* Common sources of microbial contamination include septic systems, wildlife and livestock operations. These types of activities in the source water protection area increase your well's Microbial Susceptibility.

** Sources of non-microbial contamination include inorganic and organic contaminants. Inorganic contaminants include metals and naturally occurring minerals. Organic contaminants include fuels, degreasing solvents, and pesticides.

What is the Purpose of This Report?

This report identifies the most significant *potential contaminant sources* that could threaten your well's water quality. Your susceptibility ranking does not imply poor water quality. Actual water quality is best reflected by the results of your regular water tests.

What is my Well's Source Protection Area?

A well's source protection area is the land around your well where protection activities should be focused. Your public drinking water supply well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA). The Zone I is the area that should be owned or controlled by the water supplier and limited to water supply activities. Due to the presence of items and/or activities within Zone I, your well is in nonconformance with MassDEP's requirements that Zone I activities be limited to those directly related to the provision of public water or will have no significant adverse impact on water quality. Therefore, you must obtain MassDEP approval and address Zone I issues prior to increasing water use or modifying the water system.

The IWPA radius is based upon the average pumping rate of the well. In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

Refer to **Figure 1** on page 2 for an example of a Zone I and IWPA.

How was My Well's Susceptibility Determined?

What is Susceptibility?

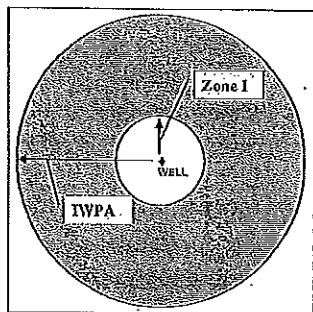
Susceptibility is a measure of your well's potential to become contaminated by land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA). Please see the enclosed map for your well's Zone I and IWPA areas.

The possibility of a release from potential contaminant sources is greatly reduced if best management practices (BMPs) are used. The susceptibility determination for your well did not take into account whether BMPs are being used.

Susceptibility of a drinking water well does *not* mean a customer will drink contaminated water. Water suppliers protect drinking water by monitoring water quality, treating water supplies, and using BMPs and source water protection measures to ensure that safe water is delivered to the tap.

Figure 1: Zone I/ IWPA
Example Source Water
Protection Area for Well #1
(1090018-01G)

Zone I = 100 ft.
IWPA = 400 ft.



Your well's high susceptibility to microbial threats is based on septic system components within the Zone I and/or IWPA. The moderate susceptibility to non-microbial threats is based on the local roads, parking, and buildings within the Zone I and/or IWPA.

This source water assessment report is based on information provided by you on your Public Water Supply Annual Statistical Report, water quality data and/or from other sources of information. MassDEP has not verified the accuracy of the information submitted with the report.

Recommendations for your Well

All public water systems with groundwater sources should ensure that only activities necessary for the operation and maintenance of the drinking water system occur within the well's Zone I.

Specific Recommendations:

- ✓ inspect the Zone I and IWPA regularly;
- ✓ work with the Board of Health and other local officials to make sure your well(s) are included in local regulations and inspection efforts;
- ✓ restrict access to the well and post the area with *Drinking Water Protection Area* signs;
- ✓ make certain that a proper sanitary seal is in place for the well (grouted casing and concrete pad);
- ✓ remove oil/hazardous materials storage tanks, and hazardous materials use or storage from the Zone I;
- ✓ do not use pesticides, fertilizers or road salt within the Zone I;
- ✓ address septic system issues in Zone I; remove septic system, relocate well or pursue upgrading options.

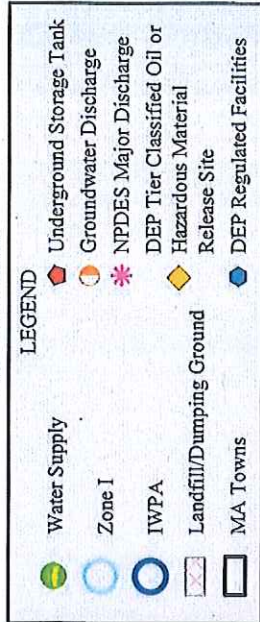
Need More Information?

Additional information or sources of information can be obtained by calling Kim Longridge (413) 755-2215 or visiting MassDEP's Drinking Water Web site at <http://www.mass.gov/dep/water/drinking.htm>.

Glossary

- Best Management Practices (BMPs) are operational procedures used to prevent or reduce pollution.
- Public Water System is a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. (See 310.CMR 22.00 for the complete definition.)

Egremont Town Hall EGREMENT



Data Sources

LAND DISPOSAL OF SOLID WASTE (SW): MA DEP-BWP, 1:25,000. Includes operations established in accordance with a valid site assignment for the disposal of SW into or on land (Landfills), and known locations for disposal of SW from one or more sources which is not established or maintained pursuant to a valid site assignment or permit (Dumping Ground). Automation was conducted using tabular/on-screen digitizing techniques, incorporating paper maps/digital (1:25,000) USGS topographic images and (1:5,000) digital orthophoto images as a base.

INTERIM WELLHEAD PROTECTION AREAS (IWPA): MA DEP DWP, 1:25,000. Variable width IWPA's represent a public water supply (PWS) source's wellhead protection area until a Zone II is approved by DEP DWP. IWPA's are generated using DEP's PWS dewatering and pumping rate information provided by DEP DWP. IWPA width is calculated as: $IWPA \text{ radius} = (32 \times \text{pumping rate in gallons per minute}) + 400$, with a maximum radius of 1/2 mile (default) for community supplies. Non Transient Non Community (NTNC) supplies have a default IWPA radius of 750 feet. Transient Non Community supplies (TNC) have a default IWPA radius of 500 feet. DEP DWP is currently in the process of assessing pumping rates for all sources with default IWPA radii. As pumping rates are assessed, default radii are being replaced by calculated radii.

POLITICAL BOUNDARIES: MassGIS/USGS, 1:25,000. Except for the coastline, this ditherer was digitized by MassGIS from mylar USGS quads. The coastline was taken from the USGS 1:100,000 Hydrography DLG files.

PUBLIC WATER SUPPLIES (PWS): MA DEP DWP. Located by US EPA and DEP DWP using several methodologies, including DGPS, USGS topographic map interpretation and photo interpretation. This data is updated quarterly.

UNDERGROUND STORAGE TANKS (UST): MA DEP BWP, 1:5,000. Automation was conducted using field verification and on-screen digitizing techniques, incorporating digital orthophoto images as a base map. This is a draft layer which is currently under development.

COLOR DIGITAL ORTHOPHOTO (COO) IMAGERY: EOSEA MassGIS, 1:5,000. In spring 2008-9, the U.S. Geological Survey submitted for true-color imagery covering the metropolitan Boston area and beyond. Image type for the entire region (more than 1.7 million acres) is 24-bit, 3-band (red-green-blue) natural color. Each band has pixel values ranging 0-255. Pixel resolution is 30 cm, or approximately one foot.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM: MA DEP GIS Program. Major discharge points identified under the National Pollutant Discharge Elimination System (NPDES). This spatial data has not been quality controlled through field verification and is subject to revision. This is currently a draft data set.

DEP TIER CLASSIFIED CHAPTER 21E (OIL OR HAZARDOUS MATERIAL) RELEASE SITES (MGL-c21E): MA DEP GIS BWSG, 1:25,000. Incorporated from source maps and textual information from DEP BWSG files. When file information was inadequate, DEP technical staff were contacted to locate the site, through knowledge gained in the course of their professional activities. Automation was conducted using on-screen digitizing technique, incorporating digital (1:25,000) USGS topographic images and (1:5,000) digital orthophoto images as a base.

DEP BWP MAJOR FACILITIES: MA DEP, Bureau of Waste Prevention, surveys, site plans, focus maps from DEP records, GPS field verification; staff site-specific knowledge.

This map is for illustrative purposes only. It represents the best available available data for a given theme. There are other important natural resources and potential contamination sources that are not shown on this map because the digital spatial data do not exist. If you have questions about any of the data shown on the map, please contact MassGIS at (617)-619-5611.

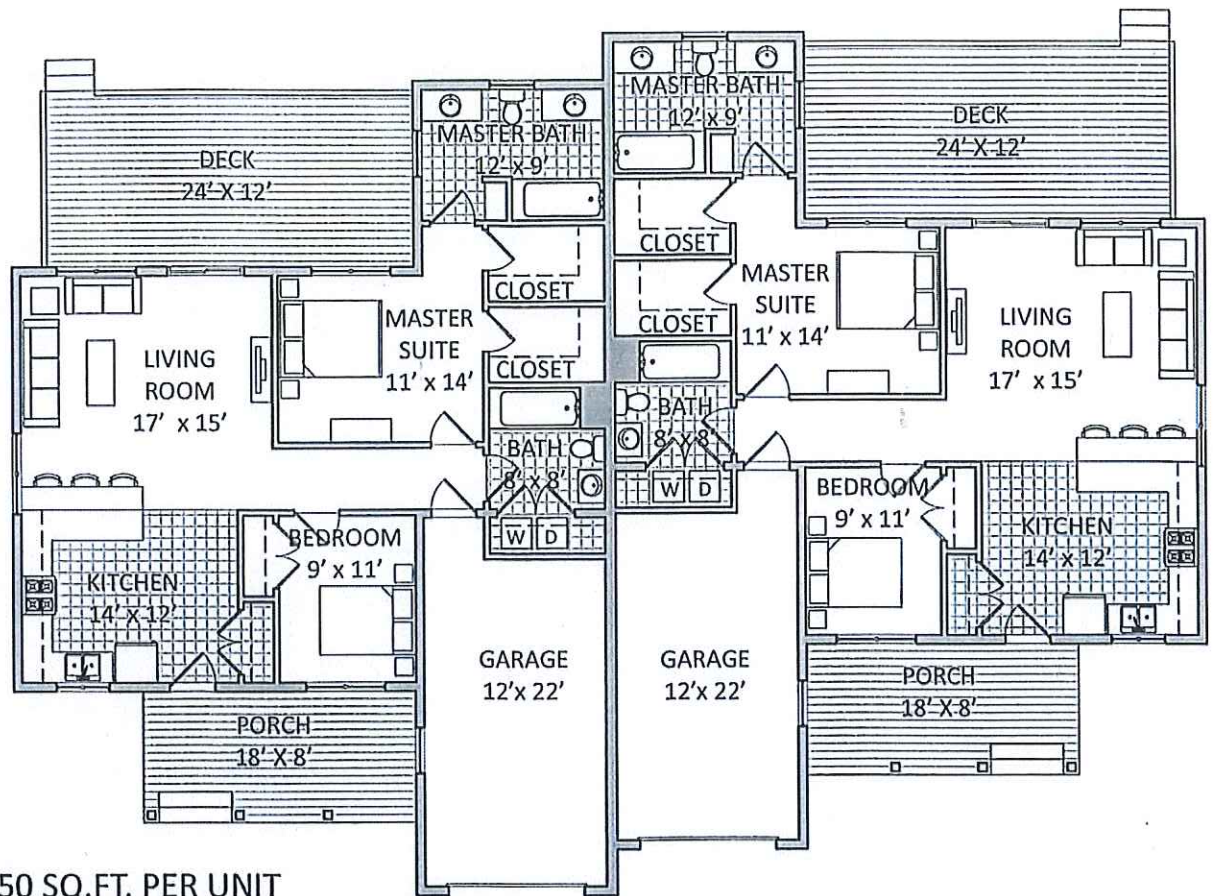
Map Scale 1:2,400



ATTACHMENT E

Architectural Renderings & Custom Quote

Dated 3/18/20



FLOOR PLAN

LIVING AREA: 1,050 SQ.FT. PER UNIT



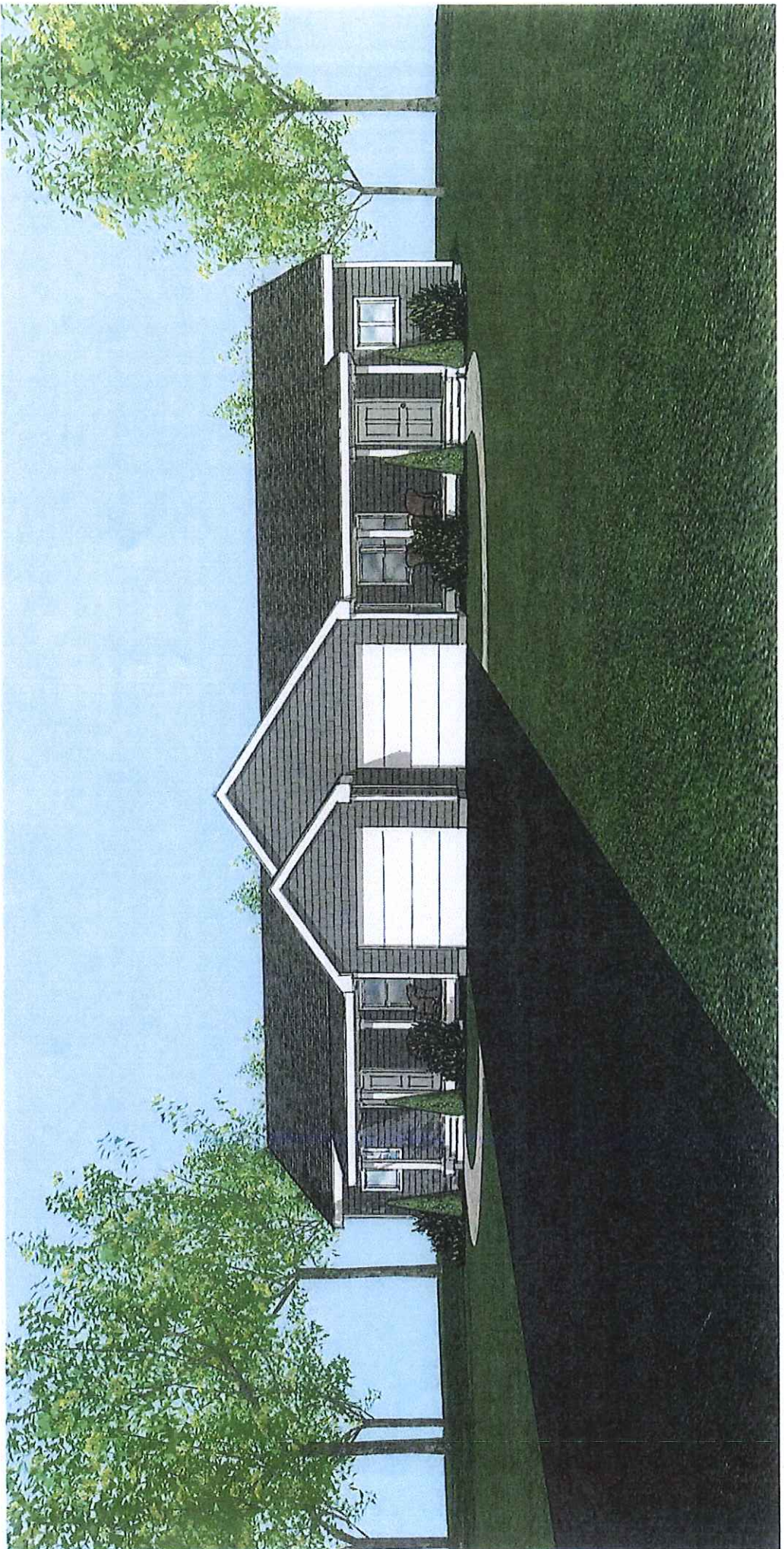
FRONT RENDERING



REAR RENDERING







2020 PURCHASE ORDER- FACTORY UNITS/OPTIONS

CUSTOMER:

DATE: 3/18/2020

MODEL: Custom Duplex

*BASE PRICE OF FACTORY UNITS	\$292,413	INTERIOR SECTION	
STATE SEALS-CRANE-SET-USE TAX	INC	INTERIOR. DOORS, 6 PANEL STD MASONITE (WHITE)	STD
FLOOR SECTION		UPGRADE: SOLID MASONITE () CLEAR SOLID PINE ()	
3/4" DOUGLAS FIR TONGUE & GROOVE PLYWOOD	STD	PINE COLONIAL WHITE TRIM: STD. (X) WIDE UPGRADE ()	STD
38 OZ. CARPET W/PAD	STD	OAK STAIR RAILINGS-SHIPED LOOSE CAPES/COLONIALS	INC
R-30 FLOOR INSULATION		YELLOW PINE STAIRS(CARPET GRADE)CAPES/COLONIALS	STD
2" X 10" FLOOR JOISTS 16" OC.	STD	OAK TREAD STAIRS W/PINE RISERS ILO STD.	
WALL SECTION		ROUNDED BOTTOM STEP & VOLUTE RAIL	
2" x 6" EXT. WALLS 24" OC () 16" OC (X)	STD		
ANDERSEN WINDOWS DH "400 Series" Tilt-Wash Low"E" (X)	STD		
ANDERSEN WINDOWS DH "200 Series" Tilt-Wash Low"E" (X)		KITCHEN	
(Andersen 200 series comes std with picture frame int. windows)		CABINETS: MERILLAT SPRING VALLEY OAK	STD
WINDOWS SCREENS AND GRILLES	INC	WALL CABINET HEIGHT STD. 30" (X) UPGRADE 42" ()	INC
FRONT DOOR SIDELITE SINGLE () DOUBLE ()	PER PLAN	COUNTERTOP EDGE: STD (X) WOOD () BEVEL ()	STD
EXTERIOR FRONT DOOR INSULATED #210	STD	KITCHEN SINK- STD. D.B. STAINLESS(X) AMERICAST ()	STD
ROOF SYSTEM		APPLIANCES DISHWASHER Prep Only	\$75
ROOF PITCH: 5/12 () 7/12 (X) 9/12 () 12/12 () ILO STD	\$2,795	KITCHEN SOFFIT Std. Closed(X) Open()	Included
ROOF SYSTEM TYPE STD (X) STORAGE ()	INC	DELTA SINGLE LEVER FAUCET W/SPRAY	STD
CATHEDRAL CEILING			
"A" DORMER(S) (4) PER PLAN	\$17,600	GENERAL BATH/S	
CAPE SHED DORMER () LF		VANITY: MERILLAT SPRING VALLEY OAK	STD
REVERSE GABLE (UNSHINGLED)		VANITY TOP-CULTURED MARBLE () FORMICA (X)	STD
WALK-OUT ANGLE BAY-- 1 FLOOR () 2 FLOORS ()		"CORIAN" VANITY TOP W/INTEGRAL SINK ILO STD	
WINDOWS FOR WALK-OUT BAY		TUB/SHOWER ENCLOSURE	INC
INSULATION R30 () R38(X)	STD	DELTA FAUCETS/AMERICAN STANDARD TOILETS	STD
9' CEILINGS FIRST FLOOR	NA		
PLUMBING SECTION		MASTER BATH/S	
"SLANT-FIN" BASEBOARD HOT WATER STUBBED	STD	VANITY: MERILLAT SPRING VALLEY OAK	STD
FACTORY WASHER/DRYER HOOKUPS (PER PLAN)	INC.	VANITY TOP CULTURED MARBLE () FORMICA (X)	STD
		"CORIAN" VANITY TOP W/INTEGRAL SINK ILO STD	
ELECTRICAL SECTION		TUB/SHOWER ENCLOSURE	STD
200 AMP PANEL BOX S/L WITH CIRCUIT BREAKERS	INC	DELTA FAUCETS/AMERICAN STANDARD TOILETS	STD
LIGHTING PACKAGE: Classic (X) Royal () Estate ()			
PREP EXTERIOR FLOODS ()		HALF BATH	NA
RANGE HOOD- BROAN	INC	VANITY: MERILLAT SPRING VALLEY OAK	
RANGE PREP: ELEC. (X) GAS (ELEC. ONLY) ()	STD	VANITY TOP CULTURED MARBLE () FORMICA (X)	
RECESSED FLUSH LIGHTS ()		DELTA FAUCETS/AMERICAN STANDARD TOILETS	
JACKS: PHONE # 2 TV # 4	\$330	EXTERIOR SECTION	
RECESSED WALL MOUNTED TV 'S W/ FLEX PIPE ()		SIDING: NORTHWOODS VINYL SHAKE(CERTAINTED)	\$8,778
PREP CEILING FAN ()		SHUTTERS: FRONT ELEVATION	NA
BEDROOM CEILING LIGHTS ()		SHINGLES: OWENS CORNING	STD
CENTRAL VAC SYSTEM WITH BEATER BAR		HOUSEWRAP AND ICE WATER SHIELD	INC.
CENTRAL VAC: OUTLETS ONLY ()		RIDGE VENT: STANDARD () UPGRADE (X)	No Charge
STRETCH CODE HERS RATING REQUIREMENTS	OWNER	FASCIA/SOFFIT: STD (X) PRE-PRIMED ()	INC.

*PRICE INCLUDES ZONE 1 DELIVERY, FACTORY	INC.	BASE PRICE OF FACTORY UNITS	\$292,413
PROVIDED CRANE AND SET AND 10 YEAR	INC.	FACTORY INSTALLED OPTIONS	\$29,578
STRUCTURAL WARRANTY		COST OF FACTORY UNITS W/ OPTIONS	\$321,991

Note: Quote is valid for 90 days

Page 1

2020 PURCHASE ORDER- SITE WORK COSTS

CUSTOMER:

MODEL: Custom Duplex

DATE: 3/18/2020

STANDARD INTERIOR COMPLETION	\$16,521	EXCAVATION	OWNER
COMPLETE CAPE 2ND FLOOR	NA	FOUNDATION EXCAVATION	
FINISH CLOSEOFF: R/R () CAPE () ATTIC ()	NA	DRIVEWAY APRON	
SHEETROCK REPAIRS AND TOUCHUP PAINTING	INC	FINAL GRADING - SEEDING	
INSTALL STANDARD FLOORING -WHERE APPLICABLE	INC	FOOTING DRAINS	
PROVIDE AND INSTALL BASEMENT STAIRS	INC	FOUNDATION BACKFILLED	
STANDARD INTERIOR TRIM OUT	INC	GRAVEL DRIVEWAY	
PROVIDE/INSTALL RAILINGS TO 2ND FLOOR OPEN ()	NA	SEPTIC () CITY SEWER ()	
		SITE CLEARING - ON SITE BURIAL	
STANDARD EXTERIOR COMPLETION	OWNER	STONE () FILL () INSIDE FOUNDATION	
COMPLETE VINYL SIDING		UTILITY TRENCH(S) WATER () ELEC. ()	
COMPLETE FASCIA AND SOFFIT TRIM			
INSTALL PERIMETER BANDS		WELL CONTINGENCY: (including well pump, tank)	OWNER
RAISED RANCH KNEEWALL			
STANDARD EXTERIOR TRIM OUT		FOUNDATION: HOUSE (X) GARAGE ()	OWNER
		BASEMENT HATCHWAY DOOR W/ STEPS(X) EXTERIOR	\$2,790
EXTRA ON SITE LABOR TO COMPLETE		FULL (X) WALK OUT ()	
A DORMER(S) # (4) SHINGLE (X) SIDING (X)	INC	2" X 6" DOUBLE SILLPLATE W/SILL SEAL (X)	\$2,784
ANGLE BAY WINDOW (INSTALL-TRIM OUT-ROOF)		WATERPROOFING OF FOUNDATION WALLS (X)	OWNER
WALK-OUT ANGLE BAY-1 FLOOR () 2 FLOORS ()			
REVERSE GABLE FINISH - SHINGLE () SIDING ()		ELECTRICIANS COST	\$12,400
SHED DORMER COMPLETION: SHINGLE () SIDING ()		BASEMENT WIRING	INC
PRIME/PAINT SOLID PINE INTERIOR DOORS ()		FACTORY SHIPLOOSE FIXTURES INSTALLED	INC
		ELECTRICAL SERVICE--STD. OVERHEAD 125' MAX. (X)	INC
SITE OPTIONS - LABOR AND MATERIALS		UNDERGROUND () 150 FT. (ALLOWANCE)	
ATTACHED GARAGES W/2-OHD--2-3046	\$14,275	WIRE MECHANICALS/ FURNACE, WELL PUMP, ETC.	INC
9/12 ROOF-SHEETROCK COMMON WALLS		GARAGE ALLOWANCE \$1,100	\$2,200
BREEZEWAY OPEN () ENCLOSED ()		WIRING OF CENTRAL VAC UNIT \$550	
GUTTERS HOUSE () GARAGE ()		PLUMBING - HEATING	\$32,800
SCREENED PORCH		CENTRAL AIR CONDITIONING	NA
		HEATING SYSTEM 1 () 2 (X) 3 () ZONE(S)	INC
DUMPSTER & PORT A JOHN	\$2,900	OIL (XX) GAS () BASEBOARD HOT WATER	INC
BRICK MASONRY FIREPLACE-- 2 FLUE WITH:		DIRECT VENT (X) FURNACE CHIMNEY PIPE ()	INC
BRICK (X) CULTURED STONE () INTERIOR		CHIMNEY:SF BRICK () EXTRA FLUE W/ FIREPLACE ()	
		PLUMBING/ TIE-IN BASEMENT AREA	INC
		CITY WATER PLUMBING: INTERIOR HOOKUPS ()	
FLOORING-- ON SITE		PLUMBING COMPLETION OF CENTRAL VAC (\$850)	
FLOORING ALLOWANCE-ENTIRE HOUSE			
		STEPS - DECKS/ ALLOWANCES	OWNER
CERAMIC TILE W/ UNDERLAYMENT AS FOLLOWS:		ENTRY STEP - FRONT (X)	OWNER
		# 2 CEDAR- P.T. DECK - SIDE () REAR ()	
		MISC FEES (UTILITY CO, LOCAL PERMITS ETC)	OWNER
ARMSTRONG LAMINATE FLOORING AS FOLLOWS:		FEE FOR ENGINEERED SEPTIC DESIGN/PLOT PLAN	
		BUILDING PERMIT (TO BE OBTAINED BY OWNER)	
OAK HARDWOOD (3-4-5 Country White) AS FOLLOWS:		15 % SUBCONTRACTING FEE ON \$45200	\$6,780
		TOTAL COST OF ABOVE SITE OPTIONS	\$93,450
		COST OF FACTORY UNITS WITH OPTIONS	\$321,991
		TOTAL PROJECT COST	\$415,441

Note: Quote is valid for 90 days

Page 2

ATTACHMENT F

*Preliminary Construction Cost Estimate &
Engineering/Permitting Budget*

Dated 9/28/21

**New Subdivision,
PRELIMINARY CONSTRUCTION COST ESTIMATE**

1.0	Road and infrastructure costs	\$ 480,260.00
2.0	Engineering Cost	\$ 100,000.00
3.0	Architecture	\$ 100,000.00
4.0	Rental Assistance	\$ 39,356.00
5.0	Legal-\$5000 per lot	\$ 50,000.00
6.0	Sewer Costs	in house number
7.0	Carrying cost (WAG)	\$ 50,000.00
	Subtotal	\$ 819,616.00
	Site development per unit	\$ 40,980.80
	Building cost per unit	\$ 299,625.65
	Per unit costs	\$ 340,606.45

Input data	
Number of units	20
Road width	24
# of bedrooms per unit	2
Road Length	900

Amortization

Loan Amount (100%)	\$ 6,812,129.06
Term	30
Interest rate	5.50%

(\$38,678.52)

Gross Income	\$39,356.00
Net monthly income	\$29,307.60
Project shortfall per month	(\$9,370.92)

DU type	# Of units	Maximum rent	Subtotal of Monthly project income	Assume vacancy rate of 10%	Project monthly income
Workforce (110% of AMI)	16	\$2,081.00	\$33,296.00		
Affordable (80% AMI)	4	\$1,515.00	\$6,060.00		
			<u>\$39,356.00</u>	<u>(\$3,935.60)</u>	<u>\$ 35,420.40</u>
				Management Fee	\$ (4,250.45)
				Maintenance reserve fee	\$ (2,000.00)
					<u>\$29,169.95</u>

Berkshire East
 PRELIMINARY CONSTRUCTION COST ESTIMATE

Road Length		900	If		
Road width		24	ft		
		# of Items	Units	Price per Item	Sub Total
1.0	Mobilize/Demobilize	1	LS	\$ 5,000.00	\$ 5,000.00
2.0	Layout	900	LF	\$ 1.50	\$ 1,350.00
3.0	Clearing	3.5	acres	\$ 3,500.00	\$ 12,250.00
4.0	Grubbing	3.5	acres	\$ 3,500.00	\$ 12,250.00
5.0	Erosion Controls	450	LF	\$ 5.00	\$ 2,250.00
6.0	Earthwork				
a	Road	800	CY	\$ 10.00	\$ 8,000.00
b	Bulk earthwork cut and fill	900	CY	\$ 22.00	\$ 19,800.00
c	Rock	0	CY	\$ 85.00	\$ -
d	soil disposal	1700	CY	\$ 7.00	\$ 11,900.00
7.0	Sewer forcemain	1050	LF	\$ 45.00	\$ 47,250.00
8.0	Water: service	0			\$ -
		1100.0	LF	\$ 35.00	\$ -
9.0	Drain:				\$ -
a	DMH	5	EA	\$ 3,000.00	\$ 15,000.00
b	DI	6	EA	\$ 2,500.00	\$ 15,000.00
c	12" ADS Drain (Average)	900	LF	\$ 38.00	\$ 34,200.00
d	Yard Drains	20	LF	\$ 500.00	\$ 10,000.00
e	Detention Basin	2	LS	\$ 25,000.00	\$ 50,000.00
f	Drainage Swale	1800	LF	\$ 17.00	\$ 30,600.00
10.0	Utilities (electric, tel, TV)	900	LF	\$ 30.00	\$ 27,000.00
11.0	Gravel	1000	CY	\$ 35.00	\$ 35,000.00
12.0	Pavement	396	TONS	\$ 160.00	\$ 63,360.00
13.0	Curb	0	LF	\$ 32.00	\$ -
14.0	Sidewalks	0	SY	\$ 38.00	\$ -
15.0	Loam & Seed	67	CY	\$ 45.00	\$ 3,000.00
16.0	Landscaping (allowance)	10	LS	\$ 1,000.00	\$ 10,000.00
17.0	Water Tank	1	EA	\$ 18,000.00	\$ 18,000.00
18.0	Water pipe-6" PVC	25	LF	\$ 55.00	\$ 1,375.00
19.0	Hydrant and GV	1	EA	\$ 4,000.00	\$ 4,000.00
20.0		0	LS		\$ -
21.0		0	LS		\$ -
Sub-Total					\$ 436,600.00
10% Contingency					\$ 43,660.00
TOTAL					\$ 480,260.00

Cost per Lot	
# of Lots	Cost per Lot
20	\$ 24,000.00
cost per foot	\$ 533.62

Lot Number

Owner

Builder

Cost Items	Description	Budget
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GENERAL CONDITIONS

1	Engineering & Survey	\$ 500.00
2	Excavation & Grading	\$ 4,000.00
3	Plans/Blueprints	Modular
4	Permits	\$ 1,400.00
5	Soil Testing	\$ -
6	Temporary Facilities	\$ 500.00
7	Temporary Utilities	\$ 500.00

OFFSITE WORK

8	shared sewer system prorated	\$ 14,844.04
9	septic tank	\$ 2,200.00
10	Water well	\$ 7,500.00
11	Prorated fee to utility	\$ 1,750.00
12	Electric/Phone assume 75 feet	\$ 1,125.00
13	private driveway Assume 75 feet	\$ 2,625.00
14	Slope & Erosion Control	\$ 500.00

ONSITE WORK

15	Propane tank	\$ 3,000.00
16	Stormwater management	\$ 500.00
17	Cleaning, Trash Disposal	\$ 400.00
18	Flatwork & Driveway	\$ 15,000.00
19	Patio and Walks	\$ 750.00
20	Landscaping	\$ 500.00
21	Deck-PT	\$ 10,000.00
22	Pool/Spa/Solar	not included
23	Finish Grading	\$ 800.00

CONCRETE

24	Foundation / Footing	\$ 18,511.11
25	Boulder Retaining walls	\$ -

house costs	Modular	
26	Hers Rating	\$ 1,500.00
27	siding	\$ 3,500.00
	Subtotal	\$ 91,905.15
Building package-duplex	\$ 415,441.00	\$ 207,720.50
Total		\$ 299,625.65

	units	bedrooms	flow	total
Sewer Flow	20	40	110	4400
Sewer services	1000	LF	\$ 25.00	\$ 25,000.00
SMH	6	ea	\$ 1,600.00	\$ 9,600.00
Septic tank	include in house cost			
System install labor	3067	yards	\$ 19.00	\$ 58,277.93
Pump chamber tank	6500	gls	\$ 2.50	\$ 16,250.00
Primary settling tank	5000	gls	\$ 2.50	\$ 12,500.00
Distribution Pump	1	ea	\$ 20,000.00	\$ 20,000.00
Sand	3067	cy	\$ 25.00	\$ 76,681.48
SAS System	7857	ea	\$ 10.00	\$ 78,571.43

\$ 296,880.84



Engineering & Permitting Budget for

Town of Egremont Proposed Housing Development Route 71, Egremont, MA

September 28, 2021

Scope of Services

A. Site Plan	\$ 2,175.00	
	Sub-Total	\$ 2,175.00
B. Review & coordination with Development Team	\$ 1,200.00	
	Sub-Total	\$ 1,200.00
C. Development Plans/Grant Submission	\$ 2,500.00	
	Sub-Total	\$ 2,500.00
D. Project Permitting:		
1. Subdivision Process:		
2. Preliminary Subdivision Submission & Meeting	\$ 2,800.00	
3. Definitive Application & Impact Statement	\$ 4,000.00	
4. Street Plan & Profile w/ Building Lot Plan	\$12,500.00	
5. Stormwater Management	\$ 4,600.00	
6. Construction Details & Sections	\$ 2,575.00	
7. Publication & Submission	\$ 940.00	
8. Site Visit & Review with Board	\$ 600.00	
9. Public Hearings/Meetings	\$ 2,800.00	
10. Revisions (if required)	\$ 4,500.00	
	Sub-Total	\$35,315.00
E. Special Permit (Multi-Family)		
1. Application/Narrative	\$ 4,250.00	
2. Publication & Submission	\$ 940.00	
3. Site Visit & Reviews with Board	\$ 600.00	
4. Meetings	\$ 800.00	
5. Revisions (if required)	\$ 1,600.00	
	Sub-Total	\$ 8,190.00
F. Conservation Commission/Notice of Intent		
1. Application & Narrative	\$ 1,875.00	
2. Modify Plans	\$ 2,950.00	
3. Publication & Submission	\$ 800.00	
4. Site Visit & Coordination w/ Commission	\$ 675.00	
5. Meetings	\$ 800.00	
6. Revisions (if required)	\$ 1,500.00	
	Sub-Total	\$ 8,600.00
G. Variance – Dimensional Requirements		
1. Application/Narrative/Exhibits	\$ 2,850.00	
2. Publication & Submission	\$ 640.00	
3. Meetings	\$ 800.00	
	Sub-Total	\$ 4,290.00

H. Sewer Design (40 Beds/4400 gpd)	\$11,500.00	
	Sub-Total	\$11,500.00
I. Water Design (wells)	\$ 4,500.00	
	Sub-Total	\$ 4,500.00
J. Permit Follow Up/Filings	\$ 3,850.00	
	Sub-Total	\$ 3,850.00
K. Construction Phase:		
1. Construction Drawings	\$ 8,250.00	
2. Bid Process/Specifications & Bid Documents	\$ 3,125.00	
3. Construction Stakeout	\$ 4,200.00	
4. Construction Supervision	\$ 6,000.00	
	Sub-Total	\$21,575.00
	TOTAL	\$103,695.00

ATTACHMENT G

Existing Conditions Plan

Proposed Site Plan

Sewer & Water Plan

Utilities & Drainage Plan

By SK Design Group, Inc.

Dated 9/7/21

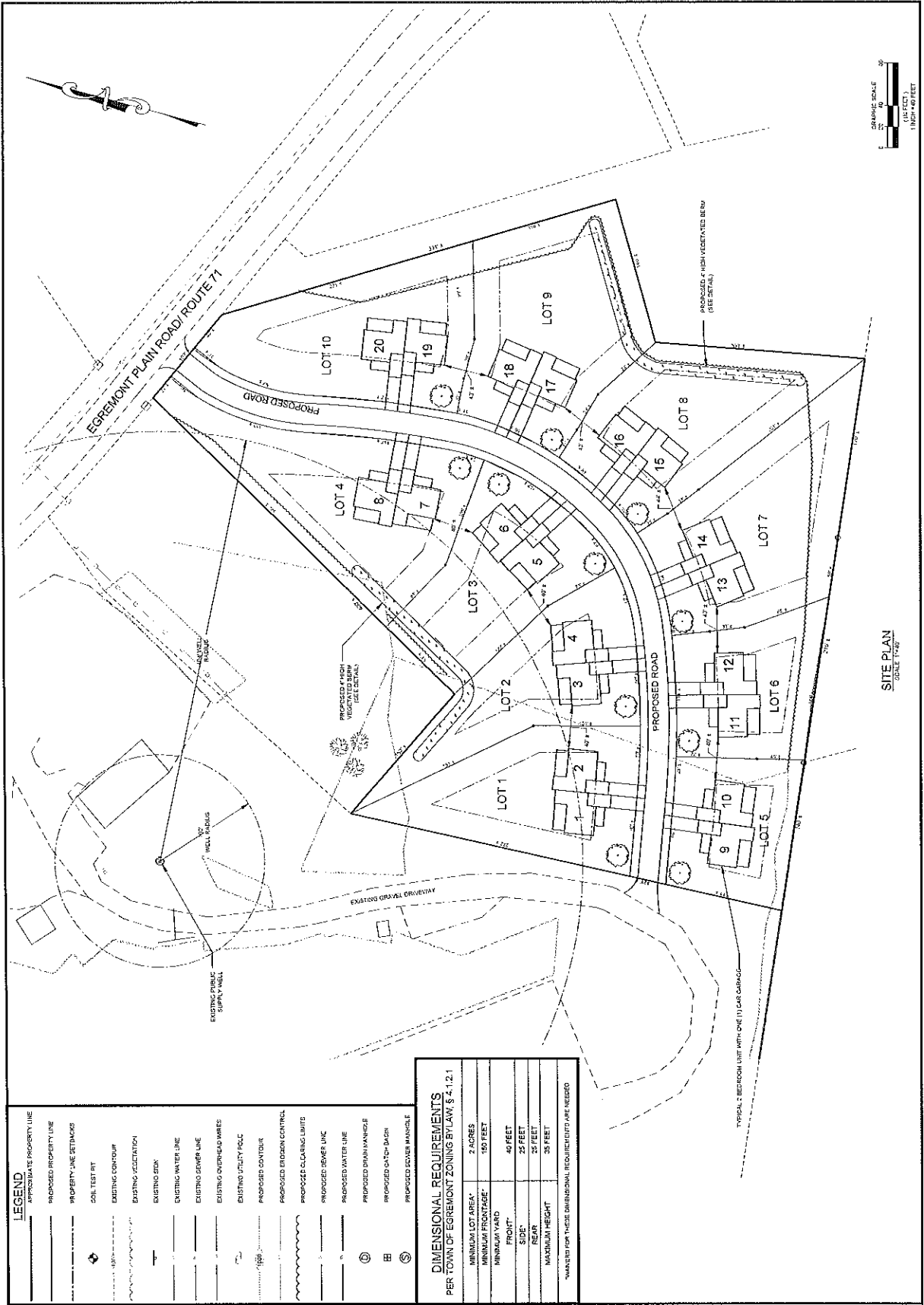


HOUSING DEVELOPMENT PLAN
PREPARED FOR:
TOWN OF EGREMONT
EGREMONT PLAIN ROAD / ROUTE 71
EGREMONT, MASSACHUSETTS
LOCATED AT:

Design Group, Inc.
DESIGN GROUP, INC.
1000 STATE STREET, SUITE 200
EGREMONT, MASSACHUSETTS 01922
TEL: 508-366-1500
WWW.DESIGNGROUPINC.COM

PROPOSED SITE
1000 STATE STREET, SUITE 200
EGREMONT, MASSACHUSETTS 01922

PRELIMINARY
DATE: 01/15/2019
DRAWN BY: [Name]
CHECKED BY: [Name]
SCALE: 1"=40' FEET



LEGEND

[Symbol]	APPROXIMATE PROPERTY LINE
[Symbol]	PROPOSED PROPERTY LINE
[Symbol]	PROPERTY LINE SETBACKS
[Symbol]	SOIL TEST PIT
[Symbol]	EXISTING CONTOUR
[Symbol]	EXISTING VEGETATION
[Symbol]	EXISTING STORM
[Symbol]	EXISTING WATER LINE
[Symbol]	EXISTING SEWER LINE
[Symbol]	EXISTING OVERHEAD WIRES
[Symbol]	EXISTING UTILITY POLE
[Symbol]	PROPOSED CONTOUR
[Symbol]	PROPOSED EROSION CONTROL
[Symbol]	PROPOSED CLEARING LIMITS
[Symbol]	PROPOSED TOWER, INC.
[Symbol]	PROPOSED WATER LINE
[Symbol]	PROPOSED DRAIN MANHOLE
[Symbol]	PROPOSED GATCH PAVEN
[Symbol]	PROPOSED COVER MANHOLE

DIMENSIONAL REQUIREMENTS
PER TOWN OF EGREMONT ZONING BY-LAW, § 4.12.1

MINIMUM LOT AREA*	2 ACRES
MINIMUM FRONTAGE*	150 FEET
MINIMUM YARD	40 FEET
FRONT	25 FEET
SIDE	25 FEET
REAR	25 FEET
MAXIMUM HEIGHT	35 FEET

*WARRANTED FOR THESE DIMENSIONAL REQUIREMENTS ARE NEEDED

